Supercomputing challenge

May 1, 2013

A team of three students (including a brother and sister) from Albuquerque's La Cueva High School won the New Mexico Supercomputing Challenge this year with its project "Learning and Analyzing Topics in Human Language."

The team, made up of Ari Echt-Wilson, Eli Echt-Wilson and Justin Sanchez, used computer programs and algorithms to find words with high correlations. Practical applications for such research could include determining if a politician had avoided answering a question as revealed by a lack of words strongly associated with the subject in question. (For more information on the topic, read the winning team's report at http://www.supercomputingchallenge.org/archive/12-13/finalreports/47.pdf.)

Los Alamos High School freshman Cole Kendrick took second place for his computer simulation project of Saturn's ring structure. Kendrick, who won the New Mexico Supercomputing Challenge's top prize in 2011 as a seventh-grade student, also received the Technical Poster Award, the Visualization prize from New Mexico Institute of Mining and Technology and the Professional Presentation Award.

La Cueva's Alexandra Porter received third place for her project "Simulation of Approximate Computing Applied to Numerical Methods." Porter was part of a La Cueva High School team that took last year's third prize.

All finalist teams received plaques for their schools, large banners suitable for hanging at their schools and other gifts.

Six other teams were finalists in the year-long competition, culminating in Tuesday's awards ceremony in Los Alamos.

When the Supercomputing Challenge began back in 1990, the Lab's computational capabilities were about the same as a current desktop computer and the Challenge was only offered to high school students. Fast-forward 23 years and increasingly sophisticated students means the Challenge needed expand to encompass schoolchildren from the fourth grade through high school seniors.

More than $49,000 in individual scholarships were awarded this year, including $28,000 from the Laboratory's Computer, Computational, and Statistical Sciences Division and Los Alamos National Security, LLC, which operates the Lab.

Los Alamos and Sandia National Laboratories and Los Alamos National Security, LLC sponsor the Supercomputing Challenge.

Educational partners include The Center for Connected Learning/NetLogo, CHECS, Eastern New Mexico University, MIT StarLogo, New Mexico Computing Applications Center, New Mexico EPSCoR, New Mexico Highlands University, New Mexico Institute of Mining and Technology, Northern New Mexico College, New Mexico Public Education Department, New Mexico State University, San Juan College, Santa Fe Community College, Santa Fe Institute, the University of New Mexico and the UNM Center for Advanced Research Computing, and NMSU-Doña Ana Community College.

Commercial partners are Lockheed Martin, Los Alamos National Laboratory Foundation, Abba Technologies/SGI, Google, The Math Works, Vandyke Software Inc., Gulfstream Group and bigbyte.cc, Technology Integration Group, Qforma, PY Multimedia Services, CAaNES, Cray Inc., Fourth Watch Software, New Mexico Technology Council and Redfish Group.

For more information on the Challenge, go to http://www.challenge.nm.org/.